WHAT IS CLAIMED IS:

1. A coding device for coding an input signal, said coding device dividing the input signal into temporally continuous frames each including a predetermined number of discrete temporal samples, the coding device comprising:

a dividing unit configured to divide each of the frames into one or more blocks, said dividing unit dividing each of the frames using a plurality of block combinations;

a coding unit configured to code each of the blocks at a plurality of bit rates and generate a plurality of block code sequences; and

a determination unit configured to select a frame code sequence corresponding to one of the block combinations so that the selected frame code sequence has optimum quality and that an average bit rate for coding the corresponding block combination is not higher than a predetermined bit rate, said determination unit selecting the frame code sequence by determining the block lengths of the respective blocks in the corresponding block combination and determining the bit rates for coding the respective blocks in the corresponding block combination.

2. The coding device as claimed in claim

1, further comprising:

a coding quality evaluation unit configured to determine data of quality of each of frame code sequences corresponding to the respective block combinations; and

an output unit configured to output the selected frame code sequence.

3. The coding device as claimed in claim 2, wherein

the coding quality evaluation unit calculates a sum of data of quality of the block code sequence corresponding to one of the blocks to be coded and the data of quality of the block code sequences corresponding to blocks prior to the one of the blocks to be coded; and

the determination unit uses the sum of the data of quality in determination of the block lengths and the bit rates.

4. The coding device as claimed in claim 2, wherein the determination unit determines the block lengths and the bit rates using the Viterbi algorithm.

5. The coding device as claimed in claim 2, wherein

the data of quality includes an electric power of a difference between a signal obtained by decoding one of the frame code sequences and a corresponding portion in the input signal; and

the determined block lengths and the bit rates make the electric power of the difference substantially a minimum.

6. The coding device as claimed in claim 2, wherein the data of quality includes a signal-to-noise-ratio of a signal obtained by decoding one of the frame code sequences; and

the determined block lengths and the bit rates make the signal-to-noise-ratio substantially a maximum.

7. The coding device as claimed in claim 2, wherein a weighting factor determined by human perceiving characteristics is applied to the data of quality.

8. The coding device as claimed in claim 2, wherein

the output unit appends data of the block lengths and the bit rates to the selected frame code sequence.

9. The coding device as claimed in claim 8, wherein

the output unit appends the data of the block lengths and the bit rates to the corresponding block code sequences in the selected frame code sequence, respectively.

10. A decoding device for decoding an input code sequence obtained by coding an input signal, said input signal being divided into temporally continuous frames each including a predetermined number of discrete temporal samples, and each of the frames being divided into one or more blocks for coding, the decoding device comprising:

an information extracting unit configured to extract data of block lengths of the respective blocks, and data of bit rates for coding the respective blocks from the input code sequence; and

a decoding unit configured to decode the input code sequence according to the extracted data

of the block lengths and the data of the bit rates.

11. The decoding device as claimed in claim 10, wherein the data of the block lengths and the data of the bit rates are appended to the input code sequence.

12. The decoding device as claimed in claim 11, wherein

the input code sequence includes one or more block code sequences obtained by coding the respective blocks; and

the data of the block lengths and the data of the bit rates are appended to the block code sequences, respectively.

13. A coding method for coding an input signal, wherein the input signal is divided into temporally continuous frames each including a predetermined number of discrete temporal samples, the coding method comprising:

a first step of dividing each of the frames into one or more blocks, said each of the frames being divided by using a plurality of block

combinations;

a second step of coding each of the blocks at a plurality of bit rates and generating a plurality of block code sequences; and

a third step of selecting a frame code sequence corresponding to one of the block combinations so that the selected frame code sequence has optimum quality and that an average bit rate for coding the corresponding block combination is not higher than a predetermined bit rate, said selected frame code sequence being selected by determining the block lengths of the respective blocks in the corresponding block combination and the bit rates for coding the respective blocks in the corresponding block combination.

14. The coding method as claimed in claim 13, further comprising:

a step, before the third step, of determining data of quality of each of frame code sequences corresponding to the respective block combinations; and

a step, after the third step, of outputting the selected frame code sequence.

15. A decoding method for decoding an input code sequence obtained by coding an input

signal, said input signal being divided into temporally continuous frames each including a predetermined number of discrete temporal samples, and each of the frames being divided into one or more blocks for coding, the decoding method comprising the steps of:

extracting data of block lengths of the respective blocks and data of bit rates for coding the respective blocks; and

decoding the input code sequence according to the extracted data of the block lengths and the data of the bit rates.